

## APPENDIX B

```
AREA .. SUM(I,A(I)) =E= 0;
VELOCITY(VINDEX) .. VEL(VINDEX) =E= VSCALE *
5 SUM(I$(ORD(I) LE ORD(VINDEX)), A(I));
POSITION .. SUM(I,VEL(I)) =E= FINALPOS * SCALEFACT;
VLIMITP(I) .. SUM(VINDEX$(ORD(VINDEX) LE ORD(I)),A(I-
(ORD(VINDEX)+1))*(VOLTS(VINDEX)+KBACK*VSCALE))
=L= VOLTLIM;
10 VLIMITN(I) .. SUM(VINDEX$(ORD(VINDEX) LE ORD(I)), A(I-
(ORD(VINDEX)+1))*(VOLTS(VINDEX)+KBACK*VSCALE))
=G= -VOLTLIM
```

% A(I) are the current commands at time T(I) spaced equally at time DT.

15 % VOLTS(VINDEX) is a table of voltages representing the unit pulse response to

% a unit output in current command. VOLTLIM is the voltage limit at saturation.